

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 1037-157PCT	FOR FURTHER ACTION		See item 4 below
International application No. PCT/CA2006/000670	International filing date (<i>day/month/year</i>) 28 April 2006 (28.04.2006)	Priority date (<i>day/month/year</i>) 20 May 2005 (20.05.2005)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant TIR SYSTEMS LTD.			

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------|----------|--------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------|----------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------|--------------------------------------|--------------------------------------------------|--------------------------------------------------|-------------------------------------------------------|
| 1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a). | | | | | | | | | | | | | | | | |
| 2. This REPORT consists of a total of 7 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead. | | | | | | | | | | | | | | | | |
| 3. This report contains indications relating to the following items: | | | | | | | | | | | | | | | | |
| <table> <tr> <td><input checked="" type="checkbox"/> Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/> Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/> Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/> Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/> Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> | <input checked="" type="checkbox"/> Box No. I | Basis of the report | <input type="checkbox"/> Box No. II | Priority | <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | <input checked="" type="checkbox"/> Box No. IV | Lack of unity of invention | <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | <input type="checkbox"/> Box No. VI | Certain documents cited | <input type="checkbox"/> Box No. VII | Certain defects in the international application | <input checked="" type="checkbox"/> Box No. VIII | Certain observations on the international application |
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| <input type="checkbox"/> Box No. II | Priority | | | | | | | | | | | | | | | |
| <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Box No. IV | Lack of unity of invention | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | | | | | | | | | | | | | | |
| <input type="checkbox"/> Box No. VI | Certain documents cited | | | | | | | | | | | | | | | |
| <input type="checkbox"/> Box No. VII | Certain defects in the international application | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> Box No. VIII | Certain observations on the international application | | | | | | | | | | | | | | | |
| 4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2). | | | | | | | | | | | | | | | | |

		Date of issuance of this report 23 November 2007 (23.11.2007)
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Authorized officer Athina Nickitas-Etienne e-mail: pt04.pct@wipo.int	

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
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Suite 2200, Granville Square
200 Granville Street
VANCOUVER, British Columbia
Canada, V6C 1S4

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

		Date of mailing (day/month/year) 29 August 2006 (29-08-2006)
Applicant's or agent's file reference 1037-157PCT		FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/CA2006/000670	International filing date (day/month/year) 28 April 2006 (28-04-2006)	Priority date (day/month/year) 20 May 2005 (20-05-2005)

International Patent Classification (IPC) or both national classification and IPC
IPC: **F21S 4/00** (2006.01), **G09F 13/00** (2006.01), **H01L 51/50** (2006.01)

Applicant
TIR SYSTEMS LTD. ET AL

1. This opinion contains indications relating to the following items :

- | | |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Box No. I | Basis of the opinion |
| <input type="checkbox"/> Box No. II | Priority |
| <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input checked="" type="checkbox"/> Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI | Certain documents cited |
| <input type="checkbox"/> Box No. VII | Certain defects in the international application |
| <input checked="" type="checkbox"/> Box No. VIII | Certain observations on the international application |

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/CA Canadian Intellectual Property Office Place du Portage I, C114 - 1st Floor, Box PCT 50 Victoria Street Gatineau, Quebec K1A 0C9 Facsimile No.: 001(819)953-2476	Date of completion of this opinion 04 August 2006 (04-08-2006)	Authorized officer Josee Pharand (819) 934-4262
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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/CA2006/000670

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:
 the international application in the language in which it was filed
 a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of :
 - a. type of material
 a sequence listing
 table(s) related to the sequence listing
 - b. format of material
 on paper
 in electronic form
 - c. time of filing/furnishing
 contained in the international application as filed.
 filed together with the international application in electronic form
 furnished subsequently to this Authority for the purposes of search.
- 3 In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statement that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments :

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/CA2006/000670

Box No. IV Lack of unity of invention

1. In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has, within the applicable time limit :
 - paid additional fees
 - paid additional fees under protest and, where applicable, the protest fee
 - paid additional fees under protest but the applicable protest fee was not paid
 - not paid additional fees
2. This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is:
 - complied with
 - not complied with for the following reasons :

Claims 1 and 2 are directed to a cove illumination module comprising a heat sink.
Claim 3 is directed to a cove illumination module comprising a metal core printed circuit board or a FR4 board.
Claims 4, 5, 6 and 7 are directed to a cove illumination module comprising a linear reflector having a uniform longitudinal cross-sectional shape having one or more walls, the reflector configured to generate an asymmetric beam of light or symmetric beam of light.
Claim 8 is directed to a cove illumination module comprising a housing manufactured from metal.
Claim 9 is directed to a cove illumination module wherein the external housing unit and one or more optical elements are integrally formed.
Claim 10 is directed to a cove illumination module wherein one or more optical elements are configured to generate an asymmetric beam of light or a symmetric beam of light.
Claims 11 and 12 are directed to a cove illumination module wherein one or more of the optical elements are configured as a lens, the lens being a lenticular lens, toroidal shaped lens, Fresnel lens, or pillow lens.
Claims 3 and 14 are directed to a cove illumination module comprising two or more cove illumination modules operatively connected by an environmentally sealable electrical connection.

As the features found in independent claim 1 are not novel, the claims lack unity of invention *a posteriori*.
4. Consequently, this opinion has been established in respect of the following parts of the international application :
 - all parts
 - the parts relating to claim Nos.

**WRITTEN OPINION OF THE
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International application No. PCT/CA2006/000670

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																			
<p>1. Statement</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; padding: 2px;">Novelty (N)</td> <td style="width: 40%; padding: 2px;">Claims <u>2, 3, 5, 6, 8, 12 and 14</u></td> <td style="width: 30%; padding: 2px; text-align: right;">YES</td> </tr> <tr> <td></td> <td style="padding: 2px;">Claims <u>1, 4, 7, 9, 10, 11 and 13</u></td> <td style="text-align: right;">NO</td> </tr> <tr> <td style="padding: 2px;">Inventive step (IS)</td> <td style="padding: 2px;">Claims <u>None</u></td> <td style="text-align: right;">YES</td> </tr> <tr> <td></td> <td style="padding: 2px;">Claims <u>1 to 14</u></td> <td style="text-align: right;">NO</td> </tr> <tr> <td style="padding: 2px;">Industrial applicability (IA)</td> <td style="padding: 2px;">Claims <u>1 to 14</u></td> <td style="text-align: right;">YES</td> </tr> <tr> <td></td> <td style="padding: 2px;">Claims None</td> <td style="text-align: right;">NO</td> </tr> </table> <p>2. Citations and explanations :</p> <p>Reference is made to the following documents:</p> <p>D1: US 6,882,111 (KAN et al.) April 19, 2005 (19-04-2005) D2: CA 2,342,267 (HOCHSTEIN) September 30, 2001 (30-09-2001) D3: US 2002/0126478 (CORNELISSEN et al.) September 12, 2002 (12-09-2002) D4: US 6,700,502 (PEDERSON) March 2, 2004 (02-03-2004) D5: US 6,866,394 (HUTCHINS et al.) March 15, 2005 (15-03-2005)</p> <p><u>Novelty (N)</u></p> <p>Document D1 contains all of the features of the applicant's claims 1, 4, 7, 9, 10, 11 and 13. Document D1 discloses a cove illumination module comprising a substrate having one or more light-emitting elements operatively mounted thereon, the substrate adapted for connection to a source of power, and an external housing unit sealingly connected to the substrate, the external housing element including one or more optical elements in the form of one or more lenses integrally formed therewith. Document D1 also discloses that the module comprises a reflector mounted on the substrate, and that two or more modules can be operatively coupled for operation thereof. Document D1 therefore appears to be novelty destroying for claims 1, 4, 7, 9, 10, 11 and 13 of the present application (Art. 33(2) PCT).</p> <p><u>Inventive Step (IS)</u></p> <p>Claim 2 lacks inventive step having regard to document D1 in view of document D2. Claim 2 is directed to a cove illumination module further comprising a heat sink thermally connected to the substrate. However such use of heat sinks is well known in the art and has previously been disclosed, as in document D2. The claim therefore lacks inventive step (Art. 33(3) PCT).</p> <p>Claim 3 lacks inventive step having regard to document D1 in view of document D3. Claim 3 is directed to a cove illumination module further comprising a metal core printed circuit board or a FR4 board. However the use of such boards is well known in the art and has previously been disclosed, as in document D3. The claim therefore lacks inventive step (Art. 33(3) PCT).</p> <p>Claims 4 to 7 lack inventive step having regard to document D1 in view of document D4. These claims are directed to a cove illumination module comprising a linear reflector having a uniform longitudinal cross-section shape and having one or more walls which are vertical, parabolic or sloped, wherein the reflector is configured to generate an asymmetric beam of light or a symmetric beam of light. However the use of such reflectors is well known in the art and had previously been disclosed, as in document D4. The use of such a reflector in the cove illumination module of the present application does not result in any new or unobvious result. Claims 4 to 7 therefore lack inventive step (Art. 33(3) PCT).</p>			Novelty (N)	Claims <u>2, 3, 5, 6, 8, 12 and 14</u>	YES		Claims <u>1, 4, 7, 9, 10, 11 and 13</u>	NO	Inventive step (IS)	Claims <u>None</u>	YES		Claims <u>1 to 14</u>	NO	Industrial applicability (IA)	Claims <u>1 to 14</u>	YES		Claims None	NO
Novelty (N)	Claims <u>2, 3, 5, 6, 8, 12 and 14</u>	YES																		
	Claims <u>1, 4, 7, 9, 10, 11 and 13</u>	NO																		
Inventive step (IS)	Claims <u>None</u>	YES																		
	Claims <u>1 to 14</u>	NO																		
Industrial applicability (IA)	Claims <u>1 to 14</u>	YES																		
	Claims None	NO																		

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/CA2006/000670

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made :

It would appear that the term "external housing element" in claim 1 should read "external housing unit" as introduced previously in the claim.

Claims 7 and 10 do not meet the requirements of Article 6 of the PCT, which requires that the claims be clear. Claims 7 and 10 are directed to optical elements configured to generate "an asymmetric beam of light or a symmetric beam of light". As this phrase includes two different embodiments of the same invention, each should be claimed separately to ensure clarity in the claims.

**WRITTEN OPINION OF THE
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PCT/CA2006/000670

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of : Box V - Citations and Explanations

Claim 8 lacks inventive step having regard to document D1 and to the knowledge held by a person skilled in the art. In claim 8 the applicant further discloses that the housing unit is manufactured from metal. However this would be considered a design choice available to a person skilled in the art and as such lacks inventive step. (Art. 33(3) PCT).

Claims 12, 13 and 14 lack inventive step having regard to document D1 in view of document D5. In these claims the applicant further specifies that one or more optical elements are configured as a lenticular lens, a toroidal shaped lens, a Fresnel lens, or a pillow lens, and that two or more modules are operatively connected by an environmentally sealable electrical connection. However document D5 discloses the use of Fresnel lenses formed on or in the housing portion. Document D5 also discloses the use of modules operatively connected by an environmentally sealable connection. It would have been obvious to a person skilled in the art that the modules disclosed in document D1 could have lenses configured as Fresnel lenses, and that the modules could be connected by an environmentally sealable connection. These claims therefore lack inventive step (Art. 33(3) PCT).

Industrial Applicability (IA)

Claims 1 to 14 are industrially applicable and therefore meet the requirements of PCT Article 33(4).